

Patent Claims

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1. A method (100) of managing a network element using managed objects (MO1, MO2, MO*) wherein the network element is managed in response to requests (RQ) by accessing a memory (MEM) and using the objects (MO1, MO2, MO*) stored therein, said method (100) comprising the steps of:

checking in response to a request (RQ = RQ*) for access to one (MO*) of the managed objects (MO1, MO2, MO*) whether this requested object (MO*) is stored in the memory (MEM) (step 110);

if this requested object (MO*) is not stored in the memory (MEM), checking whether there is sufficient memory space to write this object (MO*) into the memory (MEM) (step 120);

if there is no sufficient memory space, swapping at least one (MO1) of the stored objects (MO1, MO2) out of the memory (MEM) to a database (DB) according to at least one predeterminable criterion (step 130);
and

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reading the requested object (MO*) from the database (DB) and writing it into the memory (MEM) (step 140).

2. A method (100) as claimed in claim 1 wherein based on the criterion, the objects (MO2) which are accessed most frequently remain in the memory (MEM).

3. A method as claimed in claim 2 wherein only a predeterminable number of recently accessed objects remain in the memory.

4. A method as claimed in claim 1 wherein the predeterminable criterion is a filter function, particularly a CMISE filter function, which indicates which objects are to remain stored in the memory.

5. A method as claimed in claim 1 wherein the predeterminable criterion is a length of time which indicates how long each of the objects may remain stored in the memory.

6. A method as claimed in claim 1 wherein the predeterminable criterion is a maximum number which indicates how many objects may remain stored in the memory.

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7. A network element for a digital communications network comprising a controller (FLT) for managing the network element using managed objects (MO1, MO2, MO*), a memory (MEM) connected to the controller (FLT), and a database (DB) connected to the controller (FLT), wherein the controller (FLT), in response to requests (RQ), manages the network element by accessing the memory (MEM) and using the objects (MO1, MO2, MO*)

stored therein, wherein in response to a request (RQ = RQ*) for access to one (MO*) of the managed objects (MO1, MO2, MO*), the controller (FLT) checks whether this requested object (MO*) is stored in the memory, wherein, if this requested object (MO*) is not stored in the memory (MEM), the controller (FLT) checks whether there is sufficient memory space to write this object (MO*) into the memory (MEM), wherein, if there is no sufficient memory space, the controller (FLT) causes at least one (MO1) of the stored objects (MO1, MO2) to be swapped out of the memory (MEM) to a database (DB) according to at least one predeterminable criterion, and wherein the controller (FLT) reads the requested object (MO*) from the database (DB) and writes it into the memory (MEM).

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8. A network element as claimed in claim 7 wherein the memory is a semiconductor memory (MEM), and wherein the database (DB) is implemented on a nonvolatile mass storage, particularly on a hard disk.
9. A digital communications network with network elements each comprising a controller (FLT) for managing the network element using managed objects (MO1, MO2, MO*), a memory (MEM) connected to the controller (FLT), and a database (DB) connected to the controller (FLT), wherein the controller (FLT), in response to requests (RQ), manages the network element by accessing the memory (MEM) and using the objects (MO1, MO2, MO*) stored therein, wherein in response to a request (RQ = RQ*) for access to one (MO*) of the managed objects (MO1, MO2, MO*), the controller (FLT) checks whether this requested object (MO*) is stored in the memory, wherein, if this requested object (MO*) is not stored in the memory (MEM), the controller (FLT) checks

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whether there is sufficient memory space to write this object (MO*) into the memory (MEM), wherein, if there is no sufficient memory space, the controller (FLT) causes at least one (MO1) of the stored objects (MO1, MO2) to be swapped out of the memory (MEM) to a database (DB) according to at least one predeterminable criterion, and wherein the controller (FLT) reads the requested object (MO*) from the database (DB) and writes it into the memory (MEM).

10. A communications network as claimed in claim 9, particularly an SDH network, wherein the network elements are crossconnects, add-drop multiplexers, and/or line multiplexers.

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